

Global Air Traffic Operations/ Mobility C2 (GATO/MC2) Update

New Horizons Symposium 13-14 November 1997

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Overview

◆GATO/MC2 SPO Organization

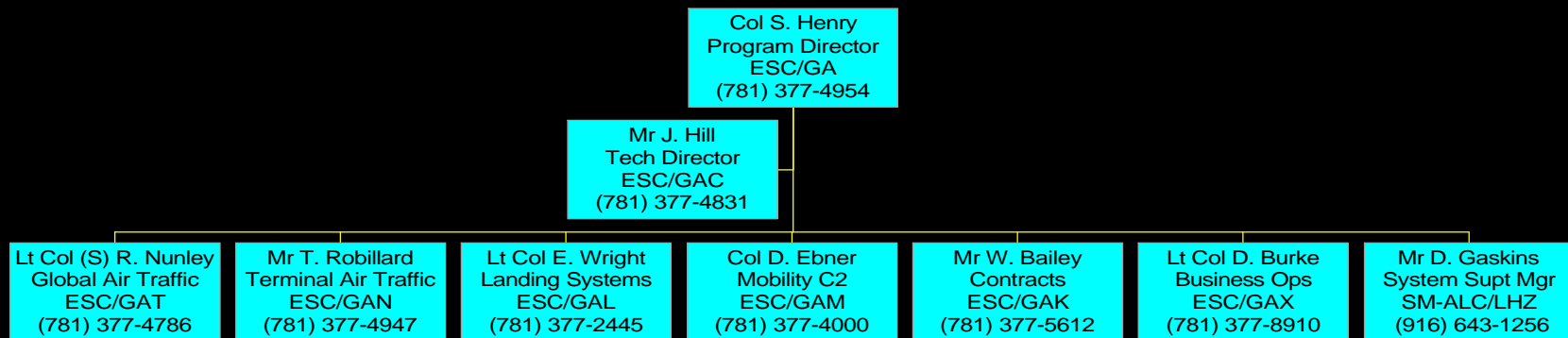
◆GATO/MC2 Challenges

◆Opportunities

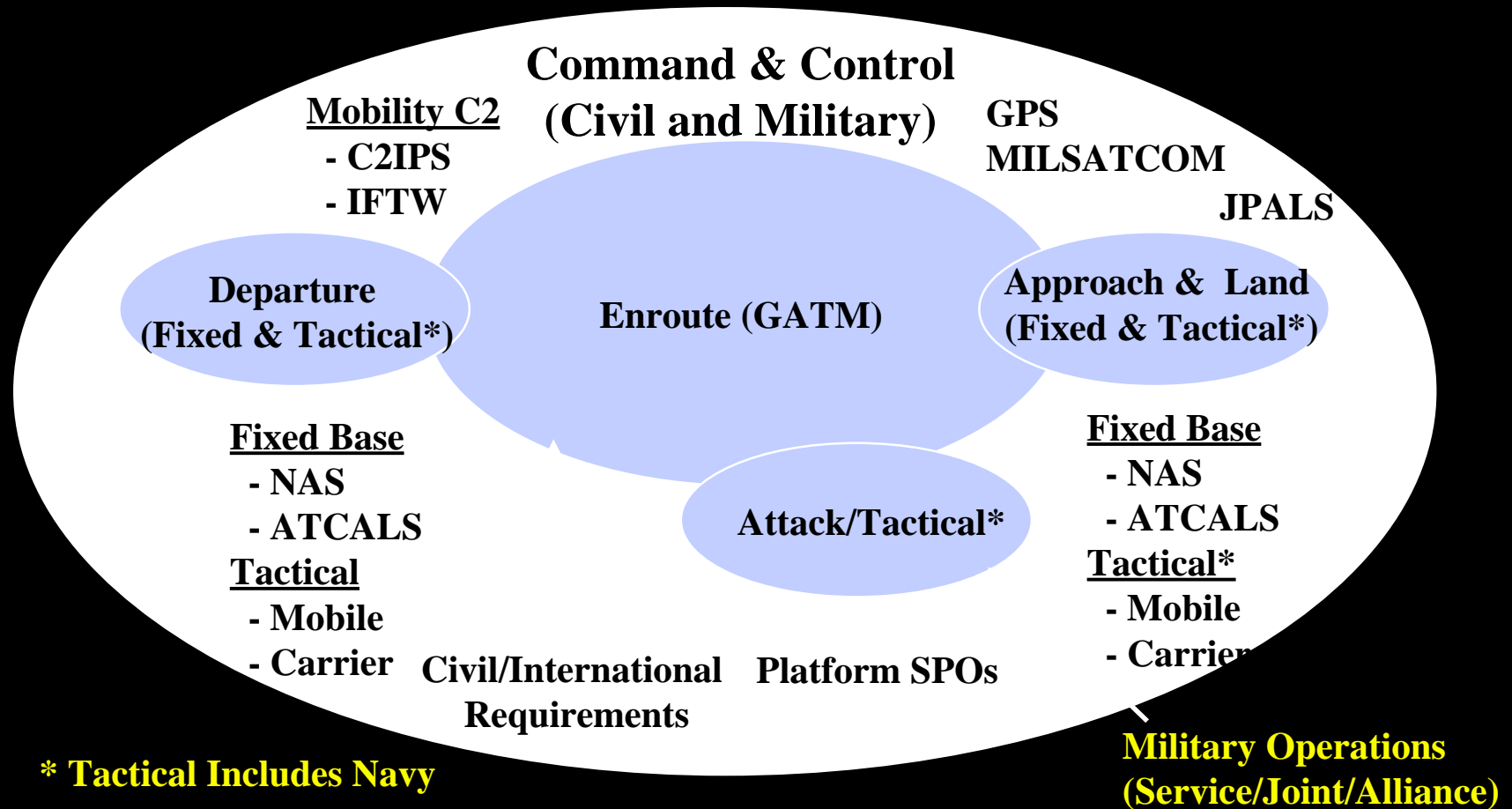
- Global Air Traffic Management (GATM)
- Joint Precision Approach Landing System (JPALS)
- Air Traffic Control and Landing Systems (ATCALS)
- Mobility Command and Control

◆Question and Answer Period

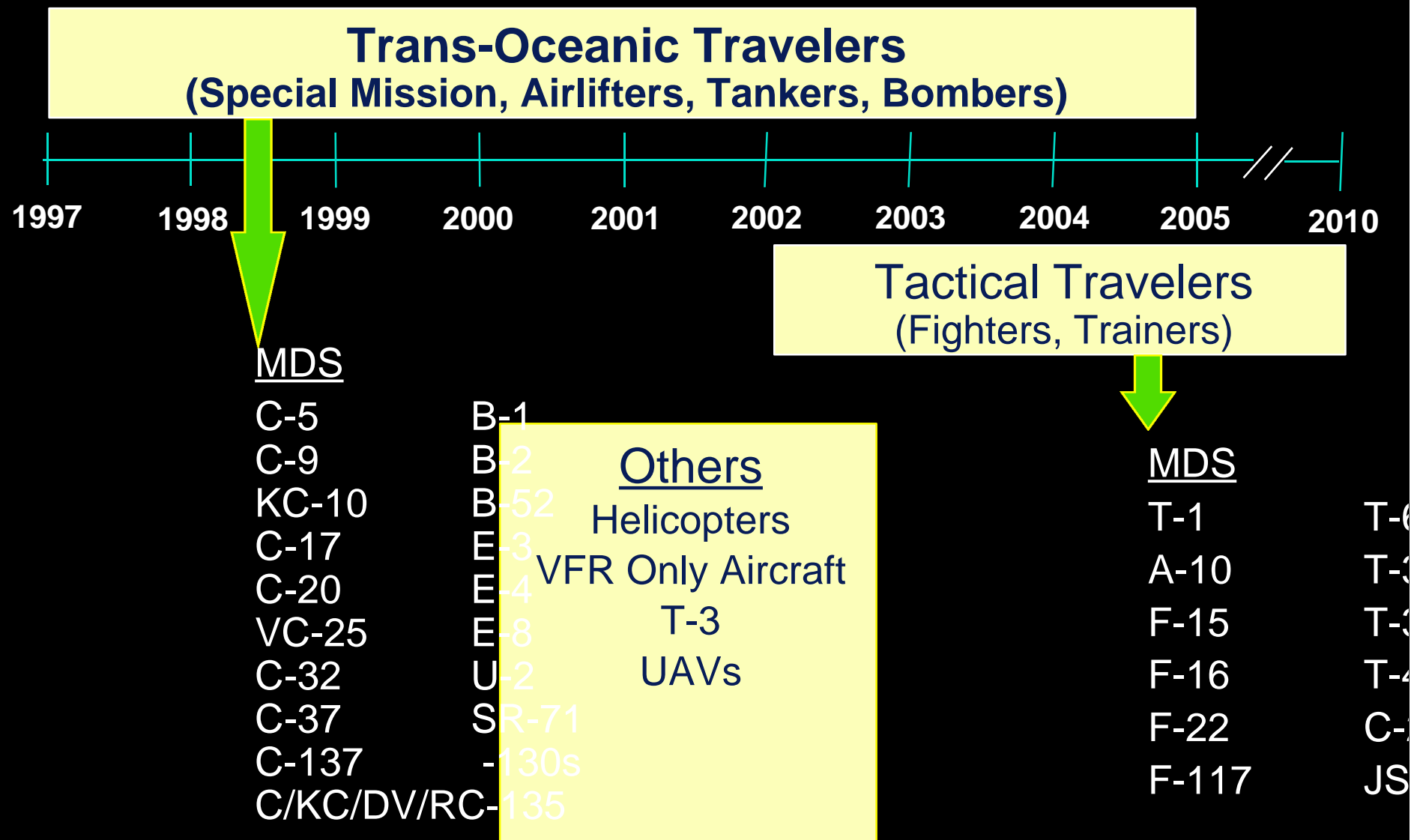
GATO/MC2 SPO Organization



GATO/MC2 Challenges



Notional GATM Modification Timelines



CRD I Aircraft GATM Requirements

	Mar 97 Atlantic RVSM	Jan 98 Europe BRNAV (RNP-5)	Apr 98 Pacific RNP-10	Jan 99 Europe Red Chan Sep (8.33kHz)	Feb/Sep 00 Pacific Europe RVSM	Jan 01 Europe P-ILS	2003 Oceanic RNP-4 Surveillance Datalink
AIRLIFT							
C-5	X	X	X	X	X	X	X
C-17	X	X	X	X	X	X	X
C-141	X	X	X	X			
C-130		X		X		X	
TANKER							
KC-10	X	X	X	X	X	X	X
KC-135	X	X	X	X	X	X	X
OSA							
VC-25	X	X	X	X	X	X	X
C-20	X	X	X	X	X	X	X
C-9	X	X	X	X	X	X	X
C-21	X	X	X	X	X	X	X
C-137		X	X	X		X	
C-32	X	X	X	X	X	X	X
C-37	X	X	X	X	X	X	X
SMA							
E-3	X	X	X	X	X	X	X
E-4	X	X	X	X	X	X	X
E-8	X	X	X	X	X	X	X

CRD I Avionics Architecture

◆Communications

- VHF Radio (8.33 kHz, Growth to Datalink)**
- HF Datalink**
- SATCOM (Voice and Data)**
- Dual Communications Management Units (CMU)**

◆Navigation

- Dual Independent Altitude Measuring Systems and Alerting Capability**
- Dual Multi-Mode Receivers**
- FMS (Integrated Multi-Sensor Navigation)**

◆Surveillance

- Combined IFF/Mode-S Transponder and TCAS II**
- Automatic Dependent Surveillance Function**
- Displays**

GATM Acquisition Strategy

◆ Near-Mid Term (1997-2003)

- Complete System Architectures**
 - Coordinate The COTS/NDI Buys
- Lease-Buy Decision -- Studies Underway**
- Bottom Line: NDI/GOTS/COTS Solutions With Commercial Logistics Support**
 - Avionics
 - Communications

◆ Long-Term (2005+)

- Developmental/Military-Unique Systems**
 - PMCS
 - NAVWAR/GPS
 - Fighters/Miniaturization
- Key Question: When/How Do We Transition To Long-Term Solution?**

JPALS

◆Phase 0 Analysis of Alternatives Complete

- Status Quo Deficient in Multiple Areas
 - Landing Minima, Capacity, Deployability, Interoperability
- No COTS or Single Solution Satisfies draft ORD
 - A Combination of Systems may be Required
- Local Area Differential GPS Holds the Most Promise

◆Press Release and Industry Day Invitations in CBD, Tentative Schedule is next week, 17 Nov

- Program Office will Summarize Requirements and Present AoA Results
- Industry Opportunity to Brief their Products

JPALS (continued)

◆ Milestone I DAB Scheduled for 15 May 98

◆ Program Definition and Risk Reduction

Plans include:

- Definition of Equipment Architecture**
- Perform Avionics Integration Studies**
- Demonstrate and Test LDGPS Technologies and Data Links**
- Develop Deployable and Rugged Configuration for Tactical and Special Missions**

Air Traffic Control And Landing Systems

- ◆ **Current fixed and mobile ATC systems becoming technologically obsolete and expensive to maintain**
- ◆ **FAA/ICAO implementing plans to revolutionize the world's communications, navigation, and surveillance system**
 - **Worldwide air traffic system will evolve from a ground-based to space-based system , driving changes in both avionics and ground equipment**
 - **Modernization efforts must provide interoperability with the FAA's and international ATC systems as well as air defense and satellite systems**

Mobility Command and Control

◆ Mobility C2 Development Objectives:

- Provide accurate and timely passenger and cargo airmovement data from receipt to delivery (FY00)
- Provide global voice/data connectivity to aircraft and worldwide locations (FY02)
- Foster innovative new mobility concepts and aggressively investigate new technological opportunities (FY03)

◆ Anticipated procurement approach

- Small Business Innovative Research Programs
- Advanced Concept Technology Demonstrators
- EFX Experiment

Mobility Command and Control

◆AMC Command & Control Information Processing System Objective:

- Migrate to GCCS, Defense Transportation System, and DII-COE (FY99)**

◆Anticipated procurement approach

- Modular Contracting**
- Government-wide Agency Contracts**

Mobility C2 Future Needs/Trends

- ◆ **Outlined in Air Mobility Master Plan
(www.safb.af.mil/hqamc/pa/aamp/97ammp.pdf)**
 - **Shared Common Logical Data Base**
 - **Shared Common Communications Processor**
 - **Shared Hardware and Software**
 - **Access from any terminal on the network**
 - **Multi-level secure environment**
 - **Common high speed multi-media transport utility**

Q & A

GATO/MC2 SPO WEB SITE:

<http://herbb.hanscom.af.mil/info.asp?rfp=R39>